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EXAMINER

WILDER, PETER C

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/043,714

Applicant(s)

BENTOLILA ET AL.

Examiner

Peter C. Wilder

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 2623

## **DETAILED ACTION**

### **Note to Applicant**

Art Units 2611, 2614 and 2617 have changed to 2623. Please make all future correspondence indicate the new designation 2623.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because they fail to show in Figure 9 the flow of data in the system as described in the specification. For example TV distribution head-end is connected to Ad category prototypes with a line, but no arrows are shown detailing the flow of information between the two boxes. Another example is the Ad server where data appears to go in, but no data seems to ever go out of the Ad server. Other errors may exist so make sure all boxes in Figure 9 have the proper arrows detailing the flow of data either in one direction or in both directions. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Any rejections below referring to Hendricks in view of Hendricks are represented in the rejection by the last three digits of the patent numbers.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 6738978 B1) in view of Herz et al. (U.S. 6088722).

Referring to claim 1, Hendricks (978) teaches a client-side system adapted to classify a television user into at least one advertising category group (Column 37-63-67 and Column 38 lines 1-8);

a contextual behavioral profiling system (Figure element 214) connected to said client-side system and determining a television user's viewing behavior with content and usage-related preferences (Column 35 lines 65-67 and Column 36 lines 1-6, Figure 1 teaches element 214 is connected to the client system element 220); and

a behavioral model database (Figure 17 element 320) connected to said profiling system and storing therein information with the television user's viewing behavior (Column 36 lines 7-11).

Hendricks (978) fails to teach a clustering engine receiving television viewing data input, processing the viewing data input, and generating user profiles targeting category groups.

Herz teaches a clustering engine (Figure 4 element 406) receiving television viewing data input, processing the viewing data input, and generating user profiles targeting category groups (Column 42 lines 7-11 teaches the headend can generate an agreement matrix and Column 39 lines 34-57 teaches the matrix made in the headend may come from data not linked to current customer profiles)

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined the profiling system of Hendricks with the clustering engine system of Herz for the purpose of determining a customer profile even if no customer profile exists (Column 39 lines 34-36, Herz).

Referring to claim 2, depending on claim 1, Herz (722) teaches wherein said clustering engine is a software agent residing in a central computer system at a television distribution head-end and is programmed to create template behavioral profiles corresponding to targeted advertising categories of television viewers (Column 26 lines 54-59 and Figure 2 element 204 teaches using a cluster of profiles at a headend to determine the programming to transmit, Column 44 lines 44-61 and Figure 5 element 506 teaches a system controller which is a processor which polls the set top terminals and then stores the information for processing later on; A processor inherently requires software on it to function)

and is programmed to create template behavioral profiles corresponding to targeted advertising categories of television viewers (Column 30 lines 32-39 teaches using user profiles to target advertisements to users and Column 31 lines 5-24 teaches clustering of user profiles).

Referring to claim 3, depending on claim 2, Herz (722) teaches wherein said clustering engine is trained substantially exclusively on tagged viewing data from a given target group to learn a most general profile of the given target group (Column 42 lines 41-63 teaches tagged viewing data to be customers program selections).

Referring to claim 5, depending on claim 1, Hendricks (978) teaches an advertisement manager (Figure 1 element 214) connected to query said behavioral model database (Column 36 lines 7-24), said advertisement manager being programmed to parameterize behavioral profiles of said behavioral model database (Column 36 lines 38-67) and to download the parameterized behavioral profiles to an advertising category membership agent (Column 13 lines 28-40 teaches the set top terminal has a microprocessor so information received can be processed) residing at said client-side system (Column 37 lines 1-8 teaches transmitting the parameterized data to the set top terminals).

Referring to claim 6, depending on claim 5, Hendricks (978) teaches said advertising category membership agent is configured to reconstruct the downloaded parameterized targeting models, and apply a clustering engine to the television user's history to determine a most likely advertising category the user belongs to and store the results as targeting category probabilities in a user category database (Column 37 lines 64-66 and Column 38 lines 1-20 teaches the set top terminal correlating group information from the network controller with user watch/history data to determine which advertising group the user belongs to, the set top terminal would have to store the result in some type of memory/database for the system to function, the operation of the set top terminal would have to be done by an advertising category membership agent/microprocessor).

Referring to claim 7, depending on claim 5, Hendricks (978) teaches targeting agents (Column 38 lines 32-36 teach the set top terminal switching to advertisements so a microprocessor of some type has to exist for the set top terminal to function) and presentation agents (Column 13 lines 8-13 teaches a user has a television) disposed at said client-side system for combining the targeting category probabilities and relevant preference information (Column 38 lines 1-20 teaches the set top terminal correlating group information from the network controller with user watch/history data to determine which advertising group the user belongs to) to selectively capture (), store, and display advertisements downloaded in accordance with the optimization.

Hendricks fails to teach to selectively capture (), store, and display advertisements downloaded in accordance with the optimization.

Herz teaches to selectively capture (Column 43 lines 7-10), store (Column 43 lines 7-10), and display advertisements downloaded in accordance with the optimization (Column 43 lines 41-48 teaches advertisements are displayed).

At the time the invention was made it would have been obvious for one skilled in the art to modify the target advertising system of Hendricks (978) using the downloading and display system of Herz for the purpose of saving bandwidth on the distribution system by not constantly having to transmit the same advertisement.



Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 6738978) in view of Herz et al. (U.S. 66088722 B1) further in view of Eldering (U.S. 2005/0193410 A1).

Referring to claim 4, depending on claim 2, Hendricks and Herz (722) fail to teach the system according to claim 2, wherein said clustering engine is programmed to generalize viewer's profiles in each group into a representative aggregation for a respective advertising category, and to form advertising category profiles by aggregating all dimensions most strongly in common for the given group and most unique across target groups

In an analogous art Eldering teaches the system according to claim 2, wherein said clustering engine (Figure 2 elements 211 or 207 and paragraph [0031]) is programmed to generalize viewer's profiles in each group into a representative aggregation for a respective advertising category, and to form advertising category profiles by aggregating all dimensions most strongly in common for the given group and most unique across target groups (Paragraphs [0033] and [0034] teach forming of subgroups for advertising based on viewer profiles and form groups that have a common characteristic of the target group).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks and Herz (722) using the profile aggregation system of Eldering for the purpose of targeting advertisements based on subgroups (Paragraph [0030]), Eldering).

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 5798785) in view of Alexander (U.S. 6177931 B1).

Referring to claim 8, Hendricks (785) teaches an interactive display system (Figure 1) with a head-end side distributing program (Figure 1 element 208) content and a client side (Figure 1 element 202) receiving the program content and selectively displaying the program content in accordance with a user's selection (Column 4 lines 45-48), a preference engine for determining the user's preferred program content (Column 29 lines 26-28 teaches microprocessor element 602), comprising:

a user monitoring device (Column 29 lines 26-28 teaches microprocessor element 602) connected at the client side to record contextual transition behaviors profiling one or more users and to continually build a knowledgebase of preferences and contextual transition behaviors profiling the one or more users (Column 29 lines 33-43 teaches recording contextual behaviors and storing them in memory and learning a subscriber's favorite channels); and

a device for providing to the one or more users the program content in accordance with the user's demographic information and with the contextual transition behavior profile (Column 33 lines 66-67 and column 34 lines 1-19 teaches demographic user input and Column 35 lines 9-30).

Hendricks (785) fails to teach a device for providing to the one or more users the program content in accordance with the user's demographic information and with the contextual transition behavior profile.

In an analogous art Alexander teaches a device (Column 5 lines 20-55 teaches an embodiment for the hardware for the invention, which would make up a cable box) for providing to the one or more users the program content in accordance with the user's demographic information and with the contextual transition behavior profile (Column 30 lines 59-67 teaches automatically tuning to a channel because of the user profile and Column 28 lines 10-53 teaches the EPG recording demographic and contextual transition behavior profile information).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined the user monitoring system of Hendricks (785) with the user preference system of Alexander for the purpose of customizing the EPG to provide custom advertising to the viewer based of the user profile (Column 2 lines 17-20, Alexander).

Referring to claim 9, depending on claim 8, Alexander teaches the preference engine according to claim 8, wherein said user monitoring device models the user's behavioral interaction with advertising program content (Column 28 lines 30-52) and with entertainment program content (Column 28 lines 30-52), and programmed to establish content preferences by combining metadata information with the contextual

transition behavior profile, and to build a relational knowledge base with associations between the user's behavior, demographics, and program content preferences.

Referring to claim 10, depending on claim 8, Alexander teaches connected to receive from the head-end metadata describing advertising content (Column 30 lines 59-67 teaches customizing the programs in the EPG for a particular viewer, in order for the system to operate the head-end would have to send down some type of metadata with the program, so the system could track the specific program watched so it could then know what program to suggest) and metadata describing entertainment program content (Column 32 lines 31-39 teaches customizing the advertisements presented to the viewer so the ads have to have metadata to know what type of advertisement it is so the EPG can recommend advertisements that correspond to the viewers profile), and programmed to establish content preferences by combining metadata information with the contextual transition behavior profile (Column 32 lines 21-39 teaches customizing advertisements for the viewer based on the viewers profile, Column 29 lines 31-55 teaches contextual transition analysis to create a user profile, and metadata or data describing the type of advertisement it is has to exist, or else the EPG would not be able to determine which advertisements to show to the viewer), and to build a relational knowledge base with associations between the user's behavior, demographics, and program content preferences (Column 29 lines 31-55 teaches building a viewers profile based on program preferences and behavior and Column 28 lines 10-53 teaches the

EPG recording demographic and contextual transition behavior profile information, all this information goes into a knowledge base called the a viewers profile).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 5798785) in view of Alexander (U.S 6177931 B1) further in view of Bedard (U.S. 5801747).

Referring to claim 11, depending on claim 8, Hendricks and Alexander fail to teach the preference engine programmed to model patterns of usage behaviors with a behavioral model and to extract key usage information from the behavioral model into a behavioral database, wherein each entry in the behavioral database has a confidence value associated therewith reflects an estimate of a structural and sampling quality of the data used to calculate the database entry.

In an analogous art Bedard teaches the preference engine programmed to model patterns of usage behaviors with a behavioral model (Column 5 lines 34-58 teaches model to determine if a program should be stored in an array or not based on the amount of viewing time) and to extract key usage information from the behavioral model into a behavioral database (Column 5 lines 34-58 teaches storing the program into an array/database is the program fits the model of having watched the program for a long enough period of time), wherein each entry in the behavioral database has a confidence value associated therewith reflects an estimate of a structural and sampling quality of the data used to calculate the database entry (Column 5 lines 16-33 and Figure 3 teach

a weighting system where each entry in the array/database is weighted/given a confidence value).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks and Alexander using the model and weighting system of Bedard for the purpose of configuring the display of an Electronic Program Guide or other suitable guide system in accordance with the viewer's viewing preferences (Column 2 lines 12-13, Bedard).

Claims 12, 13, 15-18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 6738978 B1) in view of Alexander (U.S. 6177931 B1) further in view of Hendricks et al. (U.S. 5798785).

Referring to claim 12, Hendricks (978) teaches in a program content delivery system (Figure 5) having a head-end side (Figure 1 element 208) and a client side (Figure 1 element 220), a system for targeted program delivery (Column 35 line 64-66), comprising:

a central data system at the head-end side receiving viewing data (Column 36 lines 17-23 and Figure 1 element 214 teaches the network controller receiving and storing data which is located in a head end) selected from the group consisting of watch data (Column 36 lines 29-35), watch start time, watch duration, and watch channel,

demographic information describing a program user (Column 36 lines 17-23), and an electronic program guide with metadata describing a program content;

a demographic cluster knowledge base acquirer receiving behavioral data of the user (Column 36 lines 14-23 teaches receiving demographic data to generate a matrix, the collected data from groups of subscribers is considered clusters), and outputting a knowledge base in form of a matrix with weight sets (Column 78 lines 13-17 teaches outputting a matrix and Column 71 lines 3-10 teaches transmitting weighted information to the set top terminals and Column 37 lines 1-5), and the transition matrix predicting a demographic group of the user (Column 37 lines 1-5 teaches selecting a group for a user and Column 36 lines 18-24 teaches the matrices are developed using demographic information so the selecting of a user by the matrix is using demographic data to select a group for the user);

a program content generating module (Figure 17 element 428 generates program content) providing to the client side streams of program content including advertisements based on the predicted demographic group of the user (Column 37 lines 1-5 teaches selecting a group for a user and Column 36 lines 18-24 teaches the matrices are developed using demographic information so the selecting of a user by the matrix is using demographic data to select a group for the user and Column 38 lines 56-59 teaches three methods for streaming/delivering advertisements to the user).

Hendricks (978) fails to teach viewing data selected from the group consisting of watch start time, watch duration, and watch channel, and an electronic program guide with metadata describing a program content.

In an analogous art Alexander teaches viewing data selected from the group consisting of watch start time (Column 28 lines 30-52), watch duration (Column 29 lines 50-55), and watch channel (Column 28 lines 30-52).

At the time the invention was made it would have been obvious for one skilled in the art to modify the program delivery system of Hendricks (978) with the profile collection system of Alexander for the purpose of customizing the EPG to provide custom advertising to the viewer based of the user profile (Column 2 lines 17-20, Alexander).

Hendricks (978) and Alexander fail to teach receiving an electronic program guide with metadata describing a program content;

In an analogous art Hendricks (785) teaches receiving an electronic program guide with metadata describing a program content (Column 12 lines 40-43 teaches the network controller 214 which is part of the head end element 208 according to Figure 1 receiving scheduling and description of program data (metadata), scheduling data and description data make up program guide data).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks (978) and Alexander using the electronic program guide metadata of Hendricks (785) for the purpose of allowing for modification of the program control information (Column 12 lines 45-48, Hendricks (785)).



Referring to claim 13, depending on claim 12, Hendricks (978) teaches further comprises a realtime feedback link for delivering to said central data system realtime information concerning a user's viewing behavior with click stream data (Figure 1 teaches bidirectional links between the set top terminals and the cable head end and Column 30 lines 37-46 teaches polling responses being collected).

Referring to claim 15, depending on claim 12 Hendricks (978) teaches wherein said demographic cluster knowledge base acquirer and said program content generating module are software modules each adapted to be stored on a machine-readable medium in the form of a plurality of processor-executable instructions (Column 35 lines 65-67 and Column 36 lines 1-23 teaches demographic information collected at the network controller 214 in database 320 and the network controller 214 according to Column 17 lines 60-67 teach the network controller consists of a CPU which requires processor-executable instructions to function and Column 33 lines 23-58).

Referring to claim 16, depending on claim 12, Hendricks (978) teaches wherein said demographic cluster knowledge base acquirer generates demographic cluster information of the user in terms of statistical state machine transition models (Column 36 lines 15-28 teaches using correlation algorithms to modify matrices which have demographic information in them).

Referring to claim 17, depending on claim 16, Hendricks (978) teaches wherein the state machines are defined in the transition matrix (Column 36 lines 15-28 teaches using correlation algorithms to modify matrices which have demographic information in them), and the transition matrix contains information of program transitions initiated by the viewer (Column 36 lines 29-51 teaches taking programs watched by a viewer which means that the viewer watched more than one program and thus had to transition from one program to another with a remote control of some kind (Column 14 lines 14-40) and entering the programs into the matrix).

Referring to claim 18, depending on claim 12, Hendricks (978) teaches wherein the transition matrix is a concurrent transition matrices including a genre matrix (Column 36 lines 38-44 teaches genres sports, news, movies...).

Referring to claim 21, depending on claim 12, Hendricks (978) teaches wherein said demographic cluster knowledge base acquirer is configured to define a double random process with a plurality of dimensions (Column 36 lines 17-27 teaches developing different matrices based on different groups or dimensions and processing them into one matrix),

In an analogous art Alexander teaches determine parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title of the program content (Column 28 lines 32-45 teaches recording

transition events based on channel and in Column 29 lines 31-50 teaches analyzing with the collected data the genre of the show that the user was watching).

Claim 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 6738978) in view of Alexander (U.S. 6177931 B1) further in view of Hendricks et al. (U.S. 5798785) further in view of Herz et al. (U.S. 6088722).

Referring to claim 14, depending on claim 12, Hendricks (978), Alexander, and Hendricks (785) fail to teach wherein said demographic cluster knowledge base acquirer is based on a hidden Markov model.

In an analogous art Herz teaches wherein said demographic cluster knowledge base acquirer is based on a hidden Markov model (Column 48 line 67 and Column 29 lines 1-4).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks (978), Alexander, and Hendricks (785) using the Markov model of Herz for the purpose of anticipating user requests so data can be downloaded in advance (Column 48 line 67 and Column 49 lines 1-4, Herz).

Referring to claim 19, depending on claim 12, Hendricks (978), Alexander, and Hendricks (785) fail to teach wherein the transition matrix is a two-dimensional matrix with transitions from television channels to television channels in temporal form.

Herz teaches wherein the transition matrix is a two-dimensional matrix with transitions from television channels to television channels in temporal form. (Column 48 line 67 and Column 49 lines 1-5 teach a transition matrix and by definition a matrix has rows and columns thus at least 2 dimensions, The matrix is temporal because as information is updated the matrix would change).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks (978), Alexander, and Hendricks (785) using the Markov model of Herz for the purpose of anticipating user requests so data can be downloaded in advance (Column 48 line 67 and Column 49 lines 1-4, Herz).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (U.S. 6738978) in view of Alexander (U.S. 6177931 B1) further in view of Hendricks et al. (U.S. 5798785) further in view of Herz et al. (U.S. 6088722) further in view of Rabiner et al. (A Tutorial on Hidden Markov Models and Selected Applications in Speech Recognition).

Referring to claim 20, depending on claim 12, Hendricks (978) teaches wherein said demographic cluster knowledge base acquirer is configured to parameterize the

Art Unit: 2623

user's behavior with a double pseudo hidden process (Column 18-23 teaches multiple sub matrices being analyzed from the database and this analysis is done at the network controller, so its hidden from the subscriber), and to define a low-level statistical state machine modeling a behavioral cluster (Column 36 lines 18-23) and a top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters (Column 36 lines 24-28 teaches combining the matrixes).

Hendricks (978), Alexander, and Hendricks (785) fail to teach a random Markov process.

In an analogous art Herz teaches a Markov process (Column 48 line 67 and Column 49 lines 1-7).

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks (978), Alexander, and Hendricks (785) using the Markov model of Herz for the purpose of anticipating user requests so data can be downloaded in advance (Column 48 line 67 and Column 49 lines 1-4, Herz).

Hendricks (978), Alexander, Hendricks (785), and Herz fail to teach random processing.

In an analogous art Rabiner teaches random processing (Page 257 Second Column Paragraph starting with "These are..." teaches statistical modeling with random processing in relation to hidden Markov processes)

At the time the invention was made it would have been obvious for one skilled in the art to modify the combined systems of Hendricks (978) and Herz with the random

processing function/device of Rabiner for the purpose of using a random sample of the data to avoid excessive processing and calculations.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter C. Wilder whose telephone number is 571-272-2826. The examiner can normally be reached on 8 AM - 4PM Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571)272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PW

  
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